

Attorney's Docket No.: 08935-035004 / M-4746C

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Douglas J. Woodnorth et al.
Serial No. :
Filed : May 22, 2002
Title : BATTERY CATHODE

Art Unit :
Examiner :

Commissioner for Patents
Washington, D.C. 20231

FAX RECEIVED

DEC 12 2002

PETITIONS OFFICE

PRELIMINARY AMENDMENT

Prior to examination, please amend the application as follows:

In the specification:

On page 1 of the specification, before line 1, insert

--This application is a continuation of U.S. application serial no. 09/378,324, filed August 20, 1999, which is a continuation-in-part of U.S. application serial no. 09/001,822, filed December 31, 1997, abandoned.--

In the claims:

Cancel claims 1-16.

Add claims 17-26.

--17. (New) A method of making an electrochemical cell, comprising constructing an electrochemical cell including a housing and, within the housing, (1) a cathode comprising manganese dioxide and at most 10% by weight graphite particles having an average particle size of less than 20 microns that were prepared without using an industrial or laboratory graphitization process and without any industrial or laboratory expansion process; (2) an anode comprising zinc particles and a gassing

CERTIFICATE OF MAILING BY EXPRESS MAIL

Express Mail Label No. EL 940 766 143 US

I hereby certify under 37 CFR §1.10 that this correspondence is being deposited with the United States Postal Service as Express Mail Post Office to Addressee with sufficient postage on the date indicated below and is addressed to the Commissioner for Patents, Washington, D.C. 20231.

May 22, 2002

Date of Deposit

Signature

Leroy Jenkins

Typed or Printed Name of Person Signing Certificate

Applicant : Douglas J. Woodnorth et al.
Serial No. :
Filed : May 22, 2002
Page : 2

Attorney's Docket No.: 08935-035004 / M-4746C

inhibitor selected from the group consisting of bismuth, tin, and indium; (3) a separator disposed between the cathode and the anode; and (4) an alkaline electrolytic solution.

18. (New) The method of claim 17, wherein the graphite particles have an average particle size of less than about 12 microns.

19. (New) The method of claim 17, wherein the graphite particles have an average size of from about 2 microns to about 12 microns.

20. (New) The method of claim 17, wherein the graphite particles have an average size of from about 5 microns to about 9 microns.

21. (New) The method of claim 17, wherein the separator comprises a first nonwoven, non-membrane material and a second nonwoven, non-membrane material disposed along a surface of the first nonwoven, non-membrane material.

22. (New) the method of claim 17, wherein the cathode has a porosity of from about 24% to about 28%.

23. (New) The method of claim 17, wherein the anode has a porosity of from about 2 grams of zinc particles to about 2.45 grams of zinc particles per cubic centimeter of anode volume.

24. (New) The method of claim 17, wherein a weight ratio of the manganese dioxide to the electrolytic solution is from about 2.4 to about 2.9.

25. (New) The method of claim 17, wherein the weight ratio of the zinc particles to the electrolytic solution is from about 0.9 to about 1.25.

26. (New) The method of claim 17, wherein the cathode further comprises a binder.--

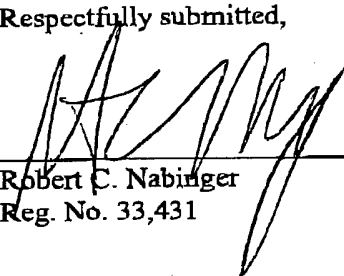
Applicant : Douglas J. Woodford et al.
Serial No. :
Filed : May 22, 2002
Page : 4

Attorney's Docket No.: 08935-035004 / M-4746C

Applicants ask that all claims be allowed. Please apply any other charges or credits to
Deposit Account No. 06-1050.

Respectfully submitted,

Date: 5/22/02


Robert C. Nabinger
Reg. No. 33,431

Fish & Richardson P.C.
225 Franklin Street
Boston, Massachusetts 02110-2804
Telephone: (617) 542-5070
Facsimile: (617) 542-8906

Applicant : Douglas J. Woodnorm et al.
Serial No. :
Filed : May 22, 2002
Page : 6

Attorney's Docket No.: 08935-035004 / M-4746C

23. (New) The method of claim 17, wherein the anode has a porosity of from about 2 grams of zinc particles to about 2.45 grams of zinc particles per cubic centimeter of anode volume.

24. (New) The method of claim 17, wherein a weight ratio of the manganese dioxide to the electrolytic solution is from about 2.4 to about 2.9.

25. (New) The method of claim 17, wherein the weight ratio of the zinc particles to the electrolytic solution is from about 0.9 to about 1.25.

26. (New) The method of claim 17, wherein the cathode further comprises a binder.--